

REMARKS

Applicants have added further limitations to substantially all independent claims (and many of the dependent claims) for identifying various processes as being performed by “computational equipment” and/or “computational machinery”. It is believed that such amendments are consistent with both Office guidelines and court rulings. It is intended that the terms “computational equipment” and “computational machinery” added to the claims refer to (or include) one or more particularly configured computational machines such as: one or more particularly programmed computers, and/or one or more hardware devices having access to instructions (e.g., via software, firmware, or otherwise) for performing the functions and algorithms disclosed in the claims and the specification. It is further believed that such further limitations add no new questions of patentability to the pending claims in that: (i) one of ordinary skill in the art would readily understand that these new claim limitations are clearly performed by computational machines, and (ii) the specification and the figures of the present application disclose various computational machines (and operative combinations of such machines), including, e.g., a location center 142 and components thereof (e.g., as shown in Fig. 8), the wireless location computational components of a mobile base station 148 (e.g., as shown in Fig. 11 and disclosed in Appendix A), and various wireless location estimators such as the “first order models” 140, and the baseline location estimators 1540.

Additional amendments to the independent claims are also described as immediately follows. All amendments to the independent claims are believed to not affect the patentability of these claims. Most limitations are to provide consistency in claim terms, enhance readability, and correct minor errors. There are a few independent claims whose scope has been minorly changed, but such changes are believed to be well within the scope of patentable subject matter herein. Accordingly, it is respectfully submitted that the amended independent claims herein remain patentable, and do not require further examination by the Examiner.

Additional Amendments to Independent Claims.

Additional amendments to the independent claims are described as follows.

Claim 85.

Regarding the additional amendments to Claim 85, these amendments add limitations that are believed to clarify the claim. That is, it is believed that the scope of the claim has not been broadened. However, if in some manner this claim has been broadened, such broadening is believed to be well within the scope of patentable subject matter.

Claim 97.

Regarding Claim 97, the additional amendments to the present claim are as follows:

- There has been a notational change from \mathbf{M}_2 to \mathbf{M}_{L_a} , and from \mathbf{M}_3 to \mathbf{M}_S . Such a change adds no new matter to the claim.
- Various instances of the term “geographical location information” are now identified by the prefix “first”, “second” and “third” for clarity, and to clarify the instance of “geographical location information” in the “obtaining” step (2). This is believed this change adds no new scope

to the claim in that the “obtaining” step of the present claim prior to amendment recited that such “geographic location information is obtained from “one or more location evaluators”.

Additionally, the amendment to the “obtaining” step (2) now assists in the clarification of at least the subclaim 188.

Further, the dangling “of” at the end of the “transmitting” step (3) has been deleted. All other changes are also clarifications that are not believed to change the scope of the claim.

Claim 99.

Regarding independent Claim 99, the additional amendments to the present claim include various notational changes such as:

- “first data” is now --geographical location information--,
- “second data” is now --second geographical information--.

All additional amendments are believed to further clarify the claim, e.g.,

- The “first obtaining” step now recites that “said first technique” is “performed by a corresponding one of the location determining sources”, and
- The “second obtaining” step now recites that “the second technique” is “performed by a corresponding one of the location determining sources”.

Claim 106.

The present independent claim has been additionally amended such that:

- The “archive” element is now a – data storage archive--.
- The “interface for communication with one or more location estimators” element is now a -- computational component having at least one module of machine instructions for communicating with computational equipment providing one or more location estimators --. It is believed that this change in notation does not affect the patentability of the claim; and
- Correction for the recitation of “M” in the last “wherein” clause of the claim since “M” was not previously described in the present claim.

Claim 113.

The additional amendment to the present independent claim is for limiting the claim element “transport” to a – vehicular transport – such as a car, truck, van, or other wheeled platform.

Claim 118.

The additional amendments to the present independent claim are syntax adjustments.

Claim 119.

The additional amendments to the present independent claim are syntax adjustments.

Claim 121.

The additional amendments to the present independent claim are syntax adjustments.

Claim 126.

The additional amendments to the present independent claim provide the following changes:

- In the preamble the phrase has been amended as follows: “a wireless mobile station ~~using~~ dependent upon measurements of wireless signals”.
- The two recitations of “predetermined corresponding location technique” in the first and second “wherein” clauses of the claim now have their output distinguished respectively as – first location information” and “second location information”.

Claim 137.

There are no additional amendments to the present claim other than those described above regarding the insertion of text regarding “computational equipment” and/or “computational machinery”.

Claim 140.

The additional amendments to the present independent claim provide the following changes:

- In the preamble the phrase has been amended as follows: “a mobile station ~~using~~ dependent upon measurements of wireless signals”.
- The “first technique” has been changed to the – first location technique --, the “second technique” has been changed to the – second location technique, and the “different technique” has been changed to the – different location technique --.
- In clause (a), “transceivers” is now – terrestrial transceivers” to correspond with the “terrestrial transceivers” in the preamble; however, there is no other types of “transceivers” recited in this claim.
- In clause (b), the term “second input including” is now – second input further including --.

Claim 142.

There are no additional amendments to the present claim other than those described above regarding the insertion of text regarding “computational equipment” and “computational machinery”.

Claim 159.

There are no additional amendments to the present claim other than those described above regarding the insertion of text regarding “computational equipment” and/or “computational machinery”.

Claim 179.

There are no additional amendments to the present claim other than those described above regarding the insertion of text regarding “computational equipment” and/or “computational machinery”.

Claim 350.

The additional amendments to the present independent claim provide the following changes:

- Minor corrections such as the following:
 1. “perform steps (A) through ([[F]] E)”,
 2. “the second location technique is not used for determining the location estimate”, and
 3. “first location technique is not used for determining a resulting location estimate from the second location technique”.

Claim 412.

The additional amendments to the present independent claim provide the following changes:

“performing after receipt by [[at]] the node of, ~~for each~~ the instance[[s]] I_1 and after receipt by the node of the instance I_2 , at least one corresponding computation, by computational machinery, that is dependent on a geographical location of a corresponding one of the first and second mobile stations;”

It is believed that this amendment does not affect the patentability of the present claim.

Claim 454.

The additional amendments to the present independent claim are syntax adjustments.

Claim 461.

The additional amendments to the present independent claim are syntax adjustments.

Claim 468.

The additional amendments to the present independent claim are syntax adjustments.

Claim 484.

The additional amendments to the present independent claim provide the following changes:

- Since the present claim is an apparatus claim, it is believed more appropriate to change the “selection process” into a – selection component --, and change the “destination determination process” into a – destination determination component --. Accordingly, these amendments are provided in the present claim.
- The term “predetermined interface” in paragraphs (1) and (a-1) have been changed to – network node –wherein “network node” is the first claimed element in the present claim. It is believed that these changes do not affect the patentability of the present claim.
- The replacement of “by” with – using – in paragraph (a-1) is believed to not affect the patentability of the present claim.
- The amendment in paragraph (b-1), the text: “provided by one of the location providing sources” is inserted, is a narrowing of the claim.
- The amendment to the “wherein” clause now labeled “(C)” is also believed to not affect the patentability of the present claim. This clause is provided here for the Examiner’s convenience:

“(C) wherein for at least one mobile station (M_p) of the mobile stations M_k and the corresponding location for M_p according to (B) above, the location indicative data for M_p ~~therefor~~ is not obtained using geographic data indicative of a spatial range between the mobile station M_p and one or more transmitting stations above and not supported on the Earth’s surface, wherein the geographic data would have to be determined using signals received at the mobile station M_p from the one or more transmitting stations;”

The amendments here are believed to be more indicative of the corresponding embodiments in the specification corresponding to the present claim.

- All additional amendments are believed to be syntax adjustments and/or insertion of text to assist in readability.

Claim 502.

The additional amendments to the present independent claim provide the following changes:

- The claim now recites that the elements of the claimed “mobile station location system” includes “equipment for communicating on one or more communications networks, the equipment including: ...”. It is believed that this additional constraint certainly does not increase the scope of the present claim, and accordingly does not affect the patentability of the present claim.
- The claim paragraph reciting the “location data resource” element of the present claim has its description rearranged. In particular, the phrase “the location data resource including a network interface” has been moved. For the Examiner’s convenience, the amended claim paragraph is provided here:

“a location data resource for the communications network, the location data resource including a network interface, wherein for each of the mobile stations M_0 , ~~the location data resource including a~~ the network interface [[that]] provides a location estimate of the mobile station M_0 to a predetermined network destination via the communications network;

It is believed that such rearrangement (and the addition of limitations related to the “communications network”) does not affect the patentability of the present claim.

- All additional amendments are believed to be syntax adjustments to correct grammatical issues.

Amendments to the Dependent Claims.

Since the independent claims of the present application are patentable, it is believed that all subclaims are also patentable. However, in order to assist the Examiner at some of the amendments to the dependent claims are discussed here.

Regarding Claim 187, the amendment thereto is fully supported by the following specification passages:

- In the description of the “Most Likelihood Estimator Embodiment”, there is the following description:
‘Additionally, in some embodiments, the most likelihood estimator 1344, upon receiving one or more location hypotheses from the hypothesis analyzer 1332, also performs some or all of the following tasks:
(37.1) ***Filters out location hypotheses having confidence values near zero whenever such location hypotheses are deemed too unreliable to be utilized*** in determining a target MS location estimate. For example, location hypotheses having confidence values in the range [-0.02, 0.02] may be filtered here;’

- In the “Mobile Base Station Controller Program” of Appendix A, the following passage is provided:

```
‘MS_new_est <--- get_Location_Center_MS_est(event);
/* This information includes error or reliability estimates that may be used in
subsequent attempts to determine an MS location estimate when there is no
communication with the LC and no exact (GPS) location can be obtained. That is,
if the reliability of the target MS’s location is deemed highly reliable, then
subsequent less reliable location estimates should be used only to the degree that
more highly reliable estimates become less relevant due to the MS moving to
other locations. */’
```

- The “FILTER” function described in Appendix A of the specification. In particular, this function is described as follows:

```
‘/* This function determines whether “MBS_new_est” is of sufficient quality to insert into it’s
corresponding MBS location track. It is assumed that the location track of
“MBS_new_est.type” is non-empty.

Input:                MBS_new_est      A new MBS location estimate to use in
                        determining the location of the MBS.

Returns:              FALSE if “MBS_new_est” was processed here (i.e., filtered out),
                        TRUE if processing with “MBS_new_est” may be continued . */

...

/* see if “MBS_new_est” can be filtered out. */

if (the confidence in MBS_new_est < a predetermined function of the confidence(s) of
previous MBS location estimates of type “MBS_new_est.type”)

/* e.g., the predetermined function here could be any of a number of functions
that provide a minimum threshold on what constitutes an acceptable
confidence value for continued processing of “MBS_new_est”. The
following is an example of one such predetermined function:

K*(confidence of “MBS_new_est.type” location track head) for some K,
0<K<= 1.0, wherein K varies with a relative frequency of estimates of
type “MBS_new_est.type” not filtered; e.g., for a given window of
previous MBS location estimates of this type, K= (number of MBS
location estimates of “MBS_new_est.type” not filtered)/(the total number
of estimates of this type in the window). Note, such filtering here may be
important for known areas where, for example, GPS signals may be
potentially reflected from an object (i.e., multipath), or, the Location
Center provides an MBS location estimate of very low confidence. For
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simplicity, the embodiment here discards any filtered location estimates. However, in an alternative embodiment, any such discarded location estimates may be stored separately so that, for example, if no additional better MBS location estimates are received, then the filtered or discarded location estimates may be reexamined for possible use in providing a better subsequent MBS location estimate.*/
then continue_to_process_new_est <-- FALSE;'

New Subclaims.

New dependent Claims 511 through 522 have been added. It is believed these claims are patentable at least due to their dependence on a patentable independent claim.

Since all claims are believed to be in condition for allowance, it is requested that the Examiner reconsider the present application, and allow it to proceed to issuance. If the Examiner has any questions, it is requested that the Examiner contact the undersigned as soon as possible.

Accordingly, since all claims are believed to be in condition for allowance, it is requested that the present application be reconsidered. It is believed that no fees are due with the current After Allowance Amendment as discussed in the initial statements of this correspondence. If any other fees are due, the undersigned Applicant requests a phone call at 303-863-2975.

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Respectfully submitted,

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